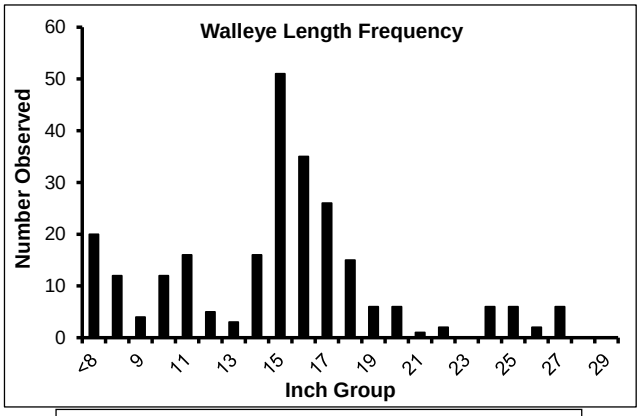
WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: Crane Lake **COUNTY:** Forest **YEAR:** 2017

The Wisconsin Department of Natural Resources conducted a comprehensive survey of Crane Lake, Forest County, to analyze the health of its fishery. Crane Lake is located approximately 10 miles south of Crandon, with boat access off of Doemel Lane. Crane Lake covers 341 acres and achieves a maximum depth of 25 feet.

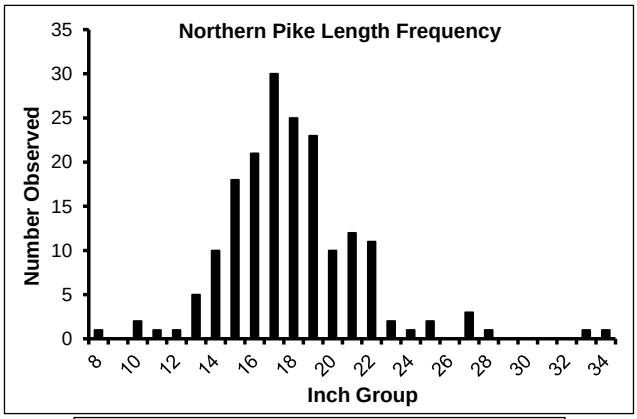


* Note: Adult walleye are defined as all sexually mature fish and all fish of unknown sex ≥ 15 inches long.

Largemouth Bass

Largemouth bass were captured during the spring netting survey as well as 6 electrofishing surveys that took place between 4/26 and 5/24/2017. During these surveys a total of 452 different adult (≥ 8 inches) largemouth bass were given an identifiable fin clip. These fish were allowed to mix back into the population before we conducted our "recapture" surveys on 6/6 and 6/12/2017. During the recapture survey a total of 159 largemouth bass (≥ 8 inches) were captured, with 36 fish bearing the fin clip given during the "marking" survey. The data obtained from our bass surveys estimate the largemouth bass population (≥ 8 inches) to be approximately 1,849 fish (5.4/acre). At over 5 adults per acre the Crane Lake largemouth bass population is considered abundant.

A total of 616 different Largemouth bass were captured during the 2017 survey, all of which were measured to assess the size structure of the population. The size structure of the Crane Lake largemouth bass population is below the area average with approximately 37.1% of the largemouth bass captured being ≥ 14 inches and 1.9% ≥ 18 inches in length.



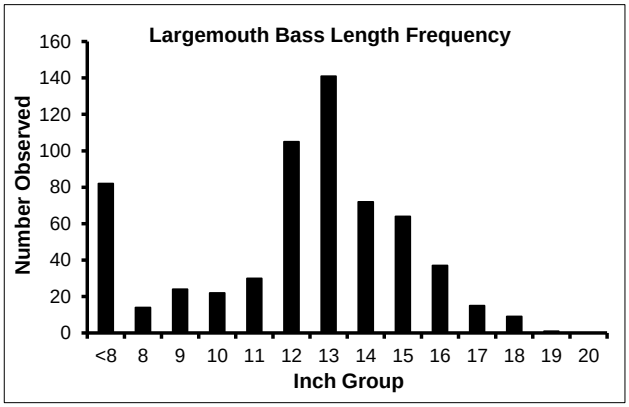
* Note: Adult northern pike are defined as all sexually mature fish and fish of unknown sex ≥ 12 inches long.

Walleye

A mark-recapture survey was conducted to estimate the abundance of adult walleye in Crane Lake during 2017. Over five days of netting and three nights of electrofishing in April a total of 250 different walleye, 178 considered adults, were captured. Based on our survey data we estimate the adult walleye population in Crane Lake to be approximately 338 fish (1.0/acre). An adult population of 1 adult per acre is considered to be of low abundance.

Crane Lake was once home to an abundant walleye population, sustained through natural reproduction. However, the last time natural reproduction of walleye was documented in Crane Lake was in 1983. The current Crane Lake walleye population has been created by two different stocking regimes. The first of which are the older walleye in the system which were created through marginally successful stockings of small fingerling walleye (~2 inches) from the mid 1990s until 2011. More recently the focus has been shifted to stocking fewer, but larger walleye (~7-8 inches) from 2012 until the present. The more recent stocking effort has been a combined effort by WDNR, the Pickerel-Crane Lake District, and the Mole Lake Chippewa Community. Additional surveys were conducted during 2017 to assess the success of the current stocking program, these surveys suggest there is a large year class of one year old walleye (estimated at 3.4/acre) in Crane Lake from the 2016 stocking event, as well as many other strong year classes present that are not yet adults. While the current adult population is low, a significant increase is very likely in the near future.

Every walleye captured during our spring survey, 250 fish, was measured to assess size structure. Not considering fish less than 10 inches, approximately 75.7% of the fish sampled were ≥ 15 inches and 13.6% were ≥ 20 inches. These data suggest that the size structure of the Crane Lake walleye population is moderate.



* Note: Adult bass are defined as all bass ≥ 8 inches long.

Northern Pike

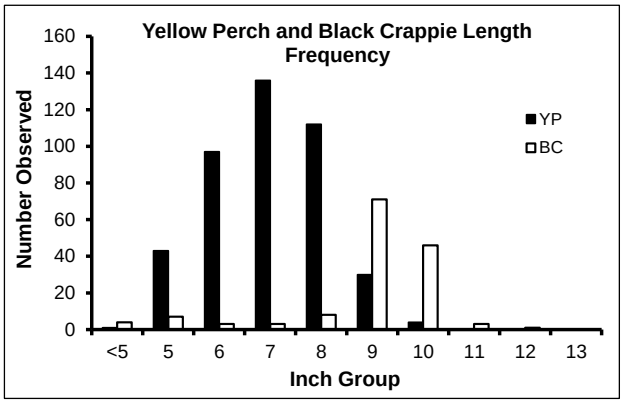
Northern pike were captured and marked with an identifiable fin clip during spring surveys designed to assess walleye and northern pike. A second sample of northern pike were captured during the juvenile walleye, and largemouth bass portions of the 2017 survey. The data from these surveys estimate the adult (≥ 12 inches) northern pike population in Crane Lake at approximately 1,048 fish (3.1/acre). At just over 3 adults per acre, the northern pike population in Crane Lake is considered to be of average abundance.

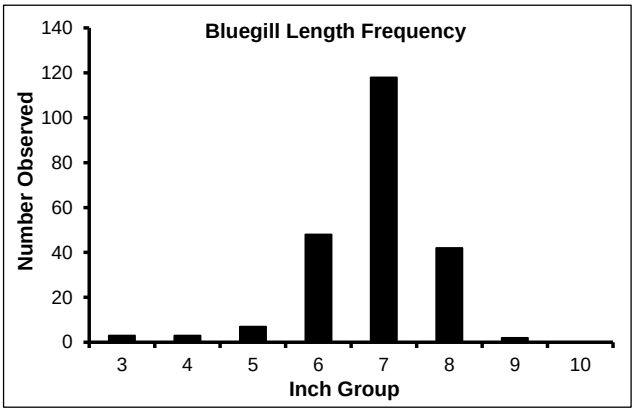
During the 2017 survey we captured a total of 181 different northern pike, all of these fish were measured to assess size structure. The size structure of the northern pike population in Crane Lake is considered poor with only 19.9% of the fish sampled being ≥ 21 inches, and 1.8% ≥ 28 inches in length. The largest northern pike captured during our survey was 34.4 inches long.

Yellow Perch  **and Black Crappie** 

The early spring netting survey was used to assess abundance of yellow perch and black crappie in Crane Lake. Relative abundance of yellow perch was measured at 19.1 fish per net-night, while black crappie relative abundance was 1.8 fish per net-night. Yellow perch are considered to be of average abundance, while black crappie are of low to moderate abundance, when compared to other populations in the area.

Random samples of 423 yellow perch and 146 black crappie were measured during the 2017 survey to assess the size structure of their populations. Yellow perch size structure is considered moderate with approximately 34.6% of the fish sampled being ≥ 8 inches. Black crappie size structure was very good with 90.8% of the fish being ≥ 8 inches, and 35.2% of the fish being ≥ 10 inches in length.





Bluegill 

Nets were set in early June to assess the summer spawning panfish populations in Crane Lake. Bluegill appear to be the most abundant panfish in Crane Lake with a relative abundance of 24.8 fish per net-lift, which is considered a low to moderate abundance of bluegill. Bluegill abundance has decreased substantially since 2012 when the same survey yielded a relative abundance of 189.3 bluegill per net-lift.

Bluegill have always been very abundant in Crane Lake. In fact, over abundance of bluegill is what led to the 18-inch minimum length limit for largemouth bass in 1996. The rationale behind the protective regulation was quite simple. By increasing largemouth bass abundance, predation on bluegill would increase, reducing bluegill abundance. The protective regulation on largemouth bass worked great on Crane Lake, reducing bluegill abundance and increasing the size structure of the population tremendously through at least 2012. Currently the bluegill population is low enough that restrictive regulations on predatory fish may no longer be necessary.

Every bluegill captured during our panfish survey, a total of 223 fish, was measured to assess the size structure of the population. Bluegill size structure is considered very good with approximately 94.2% of the fish being ≥ 6 inches and 19.7% of the fish being ≥ 8 inches in length.

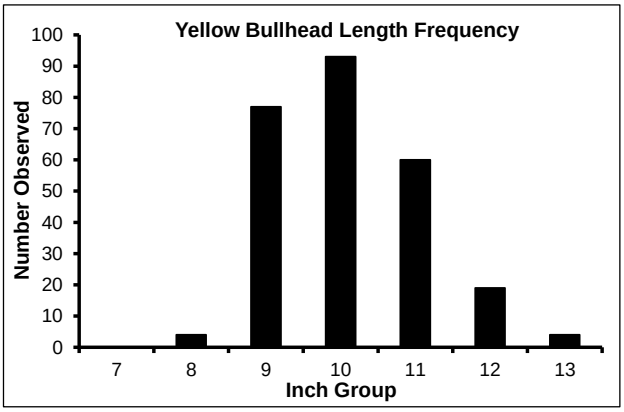
Yellow Bullhead 

Bullhead were measured at a very high relative abundance during surveys to evaluate the largemouth bass regulation on Crane Lake in 2012. After observing the high abundance of bullhead in Crane Lake extensive effort has been put toward removing bullhead as part of a walleye rehabilitation project. Since the walleye rehabiliation project began a total of 10,274 bullhead have been removed from Crane Lake, the bulk of which were removed in 2013. Extensive effort, netting and electrofishing, targetting bullhead occured throughout the 2017 survey, resulting in a total of 774 bullhead being removed this year.

During netting surveys in early June a subsample of 257 yellow bullhead was measured to assess the size structure of the population. The size structure of the bullhead population in Crane Lake was still quite good in 2017 with 98.4% of the fish measured being ≥ 9 inches, and 32.3% being ≥ 11 inches in length.

A major concern with the bullhead removal project was that bullhead recruitment would increase and quickly replace the population that was removed. It appears that this has not occurred in Crane Lake, based on the very low numbers of small bullhead captured during our survey work. Preliminary data suggests that the bullhead population in Crane Lake may have been reduced by upwards of 96.5% since 2013, and are now considered to be of moderate abundance.

Future evaluation and analysis will be necessary to understand the impacts that the bullhead removal will have on the Crane Lake fishery. The data obtained so far suggests that bullhead removals have had positive impacts on walleye and yellow perch abundance, and negative impacts on bluegill abundance.



Other Species

The species listed above were the focus of the 2017 survey, with surveys designed to best sample these individual species. Other species captured during our survey efforts include; pumpkinseed, hybrid bluegill, white sucker, golden shiner, mottled sculpin, bluntnose minnow, and central mudminnow. Based on catch rates and observations during this survey, pumpkinseed, white sucker, and golden shiner are of moderate abundance. Hybrid bluegill are of low to moderate abundance. While mottled sculpin, bluntnose minnow, and central mudminnow are considered to be of low abundance.

This report is interim only; data and findings should not be considered final.
For answers to questions about fisheries management activites and plans for Crane Lake contact:

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